

Title (en)  
Optical fiber

Title (de)  
Optische Faser

Title (fr)  
Fibre optique

Publication  
**EP 2650708 A1 20131016 (EN)**

Application  
**EP 13163474 A 20130412**

Priority  
JP 2012091105 A 20120412

Abstract (en)  
In order to decrease transmission loss caused by Rayleigh scattering in an optical fiber, without negatively affecting the curvature loss, provided is an optical fiber comprising a core at a center thereof, a low refractive index layer that is adjacent to the core and covers an outer circumference of the core, and a cladding that is adjacent to the low refractive index layer and covers an outer circumference of the low refractive index layer, wherein a refractive index of the core is higher than a refractive index of the cladding, a refractive index of the low refractive index layer is lower than the refractive index of the cladding, and the refractive index of the low refractive index layer decreases in a direction from an inner portion of the low refractive index layer to an outer portion of the low refractive index layer.

IPC 8 full level  
**G02B 6/028** (2006.01); **G02B 6/036** (2006.01)

CPC (source: EP KR US)  
**G02B 6/02** (2013.01 - KR US); **G02B 6/028** (2013.01 - KR); **G02B 6/0283** (2013.01 - EP US); **G02B 6/03627** (2013.01 - EP US)

Citation (applicant)  
• JP 2002047027 A 20020212 - SHINETSU CHEMICAL CO  
• JP 2006133496 A 20060525 - FURUKAWA ELECTRIC CO LTD  
• SHOJIRO KAWAKAMI; SHIGEO NISHIDA: "Characteristics of a Doubly Clad Optical Fiber with a Low-Index Inner Cladding", IEEE JOURNAL OF QUANTUM ELECTRONICS, vol. QE-10, no. 12, December 1974 (1974-12-01), pages 879 - 887, XP000611055, DOI: doi:10.1109/JQE.1974.1068118

Citation (search report)  
• [XAI] US 5838867 A 19981117 - ONISHI MASASHI [JP], et al  
• [XI] US 7929818 B1 20110419 - BICKHAM SCOTT ROBERTSON [US], et al  
• [XI] US 2010195966 A1 20100805 - BICKHAM SCOTT ROBERTSON [US], et al

Designated contracting state (EPC)  
AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR

Designated extension state (EPC)  
BA ME

DOCDB simple family (publication)  
**EP 2650708 A1 20131016**; CN 103376499 A 20131030; JP 2013218247 A 20131024; KR 101495418 B1 20150224; KR 20130116010 A 20131022; TW 201405183 A 20140201; TW I585476 B 20170601; US 2013279867 A1 20131024

DOCDB simple family (application)  
**EP 13163474 A 20130412**; CN 201310125228 A 20130411; JP 2012091105 A 20120412; KR 20130022183 A 20130228; TW 102112688 A 20130410; US 201313858113 A 20130408